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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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EXAMINER
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ART UNIT	PAPER NUMBER
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DATE MAILED:

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Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

**Office Action Summary**

Application No.

09/482,731

Applicant(s)

MURAKAMI ET AL.

Examiner

Hai Vo

Art Unit

1771

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 January 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-43 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-43 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. § 119**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

**Attachment(s)**

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2
- 18) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: \_\_\_\_\_

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***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 3, 5, 7, 8, 10, 11, 13, 14, 16-18, 25, 28, 30 are rejected under 35 U.S.C. 102(b) as being anticipated by WO-97/27370. WO'370 discloses a sound absorbing element comprising a sheet of plastic material with the holes in the form of microslits in it (see abstract and page 7, line 26).

With regard to claim 3, WO'370 discloses the shape of the holes can vary and so as their number so that the desired sound absorption is achieved (page 4, line 23-26).

With regard to claim 7, WO'370 discloses a sound absorbing element is used as a sound insulation in engine compartment (page 4, line 29).

With regard to claims 8, 10, 11, 13, 17, WO'370 discloses at least two single elements are joined to form a unit or at least two of elements are arranged parallel with a predetermined spacing between them (page 7, lines 10-19). WO'370 further suggests the element is manufactured as ready-to-install different sized modules that is provided with fasteners (page 8, line 2).

With regard to claims 25, 30, the figure and page 7, lines 4-8 of WO'370 read all limitations as stated within this claim.

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WO'370 is silent as to the hardness, and coefficient of water absorption of porous member. However, since the sound absorbing element of WO'370 is structurally the same, and made of the same materials as the presently claimed composite. It is the examiner's position that the sound absorbing element of WO'370 exhibits substantially identical properties as the composite structure of present invention. It is Examiner's position that WO'370 anticipated the claimed subject matter.

3. Claims 1-3, 5-11, 14, 16, 17, 19, 22-25, 28-30, are rejected under 35 U.S.C. 102(b) as being anticipated by WO96/28297. WO96/28297 discloses a sound absorbing component comprising a fiber-reinforced thermoplastic resin expanded body having a percentage of void being not less than 50 vol %, and a resin molded body (see abstract).

With regard to claim 6, WO'297 discloses the thickness of a fiber-reinforced thermoplastic resin differing in the main position from those in the other position.

With regard to claim 7, WO'297 discloses the sound absorbing component effectively absorbs sounds in a frequency range 500-3000 Hz of noise outside a car (advantage).

With regard to claims 8, 10-12, 17, WO'297 further discloses the thermoplastic resin foamed bodies are integrally stacked or placed on a part of the fiber-reinforced thermoplastic resin expanded body (figures 11 and 12).

With regard to claims 19, 23, 24, 25, 29, 30, figures 18-20 show that the fiber-reinforced thermoplastic resin expanded body having different void percentages in

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different portions. The thickness of a fiber-reinforced thermoplastic resin differing in the main position from those in the other position.

WO'297 is silent as to the hardness, and coefficient of water absorption of porous member. However, since the sound absorbing element of WO'297 is structurally the same, and made of the same materials as the presently claimed composite. It is the examiner's position that the sound absorbing element of WO'297 exhibits substantially identical properties as the composite structure of present invention. It is Examiner's position that WO'297 anticipated the claimed subject matter.

#### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 4, 15, 26, 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO'370. WO'370 is silent as to the bulk density range of the porous member, and the range of the opening areas. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have altered the bulk density range of the porous member since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. It would have been obvious to the skilled artisan to have optimized the bulk density range of the

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porous member motivated by the desire to control the porosity of the porous member, so that the desired sound absorption is achieved.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have altered the range of the opening areas since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. It would have been obvious to the skilled artisan to have optimized the range of the opening areas motivated by the desire to maximize the sound absorption of the element.

6. Claims 4, 12, 15, 20, 21, 26, 27, are rejected under 35 U.S.C. 103(a) as being unpatentable over WO'297. WO' 297 is silent as to the bulk density range of the porous member, the percentage of the areas with which the porous members are bonded to each other, and the range of the opening areas. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have altered the bulk density range of the porous member since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. It would have been obvious to the skilled artisan to have optimized the bulk density range of the porous member motivated by the desire to control the porosity of the porous member, so that the desired sound absorption is achieved.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have altered the percentage of the areas with which the porous

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members are bonded to each other since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. It would have been obvious to the skilled artisan to have optimized the percentage of the areas with which the porous members are bonded to each other motivated by the desire to obtain excellent sound absorption performance.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have altered the range of the opening areas since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. It would have been obvious to the skilled artisan to have optimized the range of the opening areas motivated by the desire to maximize the sound absorption performance.

7. Claims 31-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO'297 in view of Sensenig (US 5,888,626). WO'297 discloses a film layer being placed on the surface of the fiber-reinforced thermoplastic resin expanded body (figure 16). WO'297 fails to disclose there are holes on the film layer. Sensenig discloses an acoustically porous paint. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have applied an acoustically porous paint taught by Sensenig on the surface of the fiber-reinforced thermoplastic resin expanded body motivated by the desire to allow the sound to pass through and be absorbed in the expanded body and thus maximizing the sound absorption performance.

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With regard to claims 33, Sensenig discloses the paint layer having a minimum porosity of not less than 50 cfm/square foot. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have altered the ratio of areas of openings since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. It would have been obvious to the skilled artisan to have optimized the ratio of areas of openings motivated by the desire to maximize the sound absorption performance.

With regard to claims 34-43, WO'297 further discloses polyurethane is selected as a suitable foamed body and a reinforcing fiber is glass fiber. WO'297 is silent as to the coefficient of water absorption of urethane foam. However, since the sound absorbing element of WO'297 is structurally the same, and made of the same materials as the presently claimed composite. It is the examiner's position that the sound absorbing element of WO'297 exhibits substantially identical properties as the composite structure of present invention.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai Vo whose telephone number is (703) 605-4426. The examiner can normally be reached on Monday to Friday, 8:30 to 5:00 (EAST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Blaine Copenheaver can be reached on (703) 308-1261. The fax phone numbers for the organization where this application or proceeding is assigned are (703)



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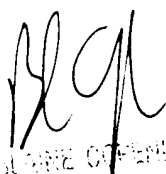
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305-3599 for regular communications and (703) 305-7718 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3601.

HV  
June 20, 2001

  
JULIENNE OFFERMAN  
SUPERVISOR, PATENT EXAMINER  
EDMUND CITY CENTER, 1700